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Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.	
Brahat Bengaluru Mahanagara Palike	
TEJUS CONSULTANTS Basaveshwar Nagar Bangalore	
Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)	

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

DBM			
At plant	**Date of Sampling**	**01-04-2019**	
	Date of Testing	**01-04-2019**	

Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	394.00	378.00	384.00	
Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	296.00	281.00	288.00	
Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	98.00	97.00	96.00	
Aggregate Impact Value (%)	(Wc/Wa)*100	24.87	25.66	25.00	
Average Aggregate impact value	(%)	25.18			Max - 30 %

✓ Satisfactory / Not Satisfactory

Consultant's Representative

TEJUS CONSULTANTS
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Project:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	DBM		**Proposed Use**	**DBM**
Sample Location	At plant		**Date of Sampling**	01-04-2019
			Date of Testing	01-04-2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7841	675	7166	400
31.5	25.0	4251	500	3751	300
25.0	20.0	2453	27	2426	250
20.0	16.0	1564	341	1223	278
16.0	12.5	564	96	468	180
12.5	10.0	283	60	223	90
10.0	6.3	122	90	32	60
Total		**17078**	**1789**	**15289**	**1558**

Results

Flakiness Index(%):	10.48
Elongation Index(%):	10.19
Combined FI+EL (%)	20.67

Consultant's Representative

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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	01-04-2019
Type of Mix	:	DBM
Sample ID	:	DBM-1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	834	947
2. Weight of Mixture after extraction, g	797	911
3. Weight of Bitumen	37	36
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	39.00	38.00
8. Bitumen content in %	4.68	4.01
9. Average Bitumen content in %	4.34	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	At site	**Date of Sampling:**	01-04-2019
		Date of testing:	01-04-2019
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	834

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	29.0	29.0	3.48	96.52	90-100
19.00	123.0	152.0	18.23	81.77	71-95
13.20	109.0	261.0	31.29	68.71	56-80
4.750	157.0	418.0	50.12	49.88	38-54
2.360	91.0	509.0	61.03	38.97	28-42
0.300	180.0	689.0	82.61	17.39	7-21
0.075	106.0	795.0	95.32	4.68	2-8
Pan	39.0				
Total	834.0				

Consultant's Representative

Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	01-04-2019
Type of Mix	:	DBM
Sample ID	:	DBM-1

GRADATION FOR DBM
(As per MORT&H 500-10,Grading-2)

Sample Location:	At plant	**Date of Sampling:**	01-04-2019
		Date of testing:	01-04-2019
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	1500.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0	0	0.00	100.00	100.00
26.50	80	80	5.33	94.67	90-100
19.00	113	193	12.87	87.13	71-95
13.20	222	415	27.67	72.33	56-80
4.750	341	756	50.40	49.60	38-54
2.360	186	942	62.80	37.20	28-42
0.300	278	1220	81.33	18.67	7-21
0.075	176	1396	93.07	6.93	2-8
Pan	104	1500			
Total	1500.0				

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Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	01-04-2019
Type of Mix	:	Tack coat DBM
Sample ID	:	1

DETERMINATION OF RATE OF SPREAD TACK COAT

Determination	Unit	Test No	
		1	2
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.760	0.744
Final weight of plate after application of tack Coat (c)	Kg	0.783	0.767
Weight of tack Coat (d=c-b)	Kg	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.256	0.256
Average	Kg/sq.m	0.256	
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**	

Consultant's Representative

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Project:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Intended Use:	DBM	**Date of Sampling**	**02-04-2019**
Sample Location:	At plant	**Date of Testing**	**02-04-2019**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	395.00	380.00	381.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	297.00	283.00	288.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	98.00	97.00	93.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.81	25.53	24.41	
5	Average Aggregate impact value	(%)	24.92			Max - 30 %

Remarks: ✓ Satisfactory / Not Satisfactory

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Project:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	DBM		**Proposed Use**	**DBM**
Sample Location	At plant		**Date of Sampling**	02-04-2019
			Date of Testing	02-04-2019

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	Retained on IS sieve, mm	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7841	500	7341	350
31.5	25.0	3500	400	3100	310
25.0	20.0	2000	300	1700	240
20.0	16.0	1300	150	1150	280
16.0	12.5	450	95	355	150
12.5	10.0	283	80	203	90
10.0	6.3	100	100	0	80
Total		**15474**	**1625**	**13849**	**1500**

Results

Flakiness Index(%):	10.50	
Elongation Index(%):	10.83	
Combined FI+EL (%)	21.33	

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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	02-04-2019
Type of Mix	:	DBM
Sample ID	:	DBM-2

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Traii 2
1. Weight of Mixture before extraction, g	840	953
2. Weight of Mixture after extraction, g	805	913
3. Weight of Bitumen	35	40
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	37.00	42.00
8. Bitumen content in %	4.40	4.41
9. Average Bitumen content in %	4.41	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	At site	**Date of Sampling:**	02-04-2019
		Date of testing:	02-04-2019
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	840

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	30.0	30.0	3.57	96.43	90-100
19.00	125.0	155.0	18.45	81.55	71-95
13.20	100.0	255.0	30.36	69.64	56-80
4.750	180.0	435.0	51.79	48.21	38-54
2.360	120.0	555.0	66.07	33.93	28-42
0.300	180.0	735.0	87.50	12.50	7-21
0.075	60.0	795.0	94.64	5.36	2-8
Pan	45.0				
Total	840.0				

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Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	02-04-2019
Type of Mix	:	DBM
Sample I/D	:	DBM-1

GRADATION FOR DBM

(As per MORT&H 500-10,Grading-2)

Sample Location:	At plant	**Date of Sampling:**	02-04-2019
		Date of testing:	02-04-2019
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	1500.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0	0	0.00	100.00	100.00
26.50	90	90	6.00	94.00	90-100
19.00	120	210	14.00	86.00	71-95
13.20	250	460	30.67	69.33	56-80
4.750	350	810	54.00	46.00	38-54
2.360	190	1000	66.67	33.33	28-42
0.300	280	1280	85.33	14.67	7-21
0.075	150	1430	95.33	4.67	2-8
Pan	70	1500			
Total	1500.0				

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Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	02-04-2019
Type of Mix	:	Tack coat DBM
Sample I/D	:	2

DETERMINATION OF RATE OF SPREAD TACK COAT

Determination	Unit	Test No	
		1	2
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.766	0.540
Final weight of plate after application of tack Coat (c)	Kg	0.789	0.563
Weight of tack coat (d=c-b)	Kg	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.256	0.256
Average	Kg/sq.m	0.256	
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**	

Consultant's Representative

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Project:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client:	Bruhat Bengaluru Mahanagara Palike
Consultant:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	DBM		**Proposed Use**	**DBM**
Sample Location	At plant		**Date of Sampling**	03-04-2019
			Date of Testing	03-04-2019

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7842	680	7162	400
31.5	25.0	4250	400	3850	300
25.0	20.0	2350	150	2200	250
20.0	16.0	1500	341	1159	300
16.0	12.5	900	96	804	180
12.5	10.0	400	60	340	90
10.0	6.3	122	80	42	58
Total		**17364**	**1807**	**15557**	**1578**

Results

Flakiness Index(%):	10.41
Elongation Index(%):	10.14
Combined FI+EL (%)	20.55

Consultant's Representative

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Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	03-04-2019
Type of Mix	:	DBM
Sample ID	:	DBM-1

GRADATION FOR DBM

(As per MORT&H 500-10,Grading-2)

Sample Location:	At plant	**Date of Sampling:**	03-04-2019
		Date of testing:	03-04-2019
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	1500.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0	0	0.00	100.00	100.00
26.50	70	70	4.67	95.33	90-100
19.00	110	180	12.00	88.00	71-95
13.20	220	400	26.67	73.33	56-80
4.750	350	750	50.00	50.00	38-54
2.360	250	1000	66.67	33.33	28-42
0.300	300	1300	86.67	13.33	7-21
0.075	100	1400	93.33	6.67	2-8
Pan	100	1500			
Total	1500.0				

Consultant's Representative

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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	03-04-2019
Type of Mix	:	DBM
Sample ID	:	DBM-3

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	834	947
2. Weight of Mixture after extraction, g	797	911
3. Weight of Bitumen	37	36
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	39.00	38.00
8. Bitumen content in %	4.68	4.01
9. Average Bitumen content in %	4.34	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	At site	**Date of Sampling:**	03-04-2019
		Date of testing:	03-04-2019
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	834

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	29.0	29.0	3.48	96.52	90-100
19.00	123.0	152.0	18.23	81.77	71-95
13.20	109.0	261.0	31.29	68.71	56-80
4.750	157.0	418.0	50.12	49.88	38-54
2.360	91.0	509.0	61.03	38.97	28-42
0.300	180.0	689.0	82.61	17.39	7-21
0.075	106.0	795.0	95.32	4.68	2-8
Pan	39.0				
Total	834.0				

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Name of Work	:	Improvements to Roads and Drains Kogilu Layout And Surrounding Area in Ward no 5.
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Date of Testing	:	03-04-2019
Type of Mix	:	Tack coat DBM
Sample I/D	:	3

DETERMINATION OF RATE OF SPREAD TACK COAT

Determination	Unit	Test No	
		1	2
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.769	0.750
Final weight of plate after application of tack Coat (c)	Kg	0.792	0.773
Weight of tack coat (d=c-b)	Kg	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.256	0.256
Average	Kg/sq.m	0.256	
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**	

Consultant's Representative

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Test Report on Compressive Strength of Concrete Cubes

Project:	Construction of Govt. School Rooms, Palanahalli and Kattigehalli Village in Ward No.05 (Kattigehalli)
Client:	Bruhat Bangalore Mahanagar Palike
Consultant:	TEJUS CONSULTANTS
Contractor	Sri.T K SHANKARAPPA (MESPC INFRA PROJECTS PRIVATE LIMITED)
Location:	site
Grade of concrete:	M25
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	28-03-2019	04-04-2019	7 days	8.832	22500	366	16.27	16.16
2	28-03-2019	04-04-2019	7 days	8.864	22500	361	16.04	
3	28-03-2019	04-04-2019	7 days	8.721	22500	364	16.18	

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